

REMARKS/ARGUMENTS

In the Office Action mailed August 8, 2007, claims 1 – 18 were rejected. Additionally, claims 19 – 22 were withdrawn in response to a Restriction requirement. In response, Applicants have amended claims 13 – 15. Applicants respectfully request reconsideration of the application in view of the amended claims and the below-provided remarks.

Claim Objections

Claim 18 is objected to because of an alleged informality. Applicants have carefully reviewed claim 18 and believe that claim 18 particularly points out and distinctly claims the subject matter which Applicants regard as the invention. Further, Applicants respectfully assert that the language of claim 18 is fully supported in Applicants' specification at, for example, Figs. 3A and 3B and paragraph [0029].

Claims 13 – 15 are objected to because "they fail to further limit the claim or provide any further structural limitation." Applicants have amended claims 13 – 15 to further specify the structural limitations of the receptors and the processor. Applicants assert that amended claims 13 – 15 particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Response to Claim Rejections

Claims 1, 4 – 8, and 12 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munro (U.S. Pat. Publ. No. 2004/0135992) in view of Clark (U.S. Pat. No. 5,309,212). Additionally, claims 2, 3, and 9 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munro in view of Clark and further in view of Schultz (U.S. Pat. No. 6,442,416). However, Applicants respectfully submit that these claims are patentable over Munro in view of Clark and Schultz for the reasons provided below.

Claim 1

Claim 1 recites:

“A method for determining the position of an object, comprising:
providing one or more electromagnetic (EM) beams;
dispersing said one or more EM beams, respectively, into a scanning
space *by frequency*;
retro-reflecting at least a portion of said respective dispersed beams off
an object positioned within said scanning space; and
determining, *in response to frequencies* associated with said retro-
reflected beams, respective angular positions of said object.” (emphasis added)

As recited in claim 1, the method for position determination utilizes frequency-dependent dispersion to determine the angular position of a retro-reflective object within a scanning space. In particular, the one or more EM beams are dispersed “by frequency” and then angular positions are determined “in response to frequencies...” Applicants assert that Munro in view of Clark fail to teach the frequency-based limitations of claim 1 as detailed below.

Munro does not teach “determining, *in response to frequencies* associated with said retro-reflected beams, respective angular positions of said object”

Munro is cited for teaching the limitation “determining, in response to frequencies associated with said retro-reflected beams, respective angular positions of said object.” (Office action, page 3) Applicants assert that Munro does not teach the above-identified limitation.

Munro teaches a technique for measuring distance and velocity based on the amplitude and/or phase difference of a received signal. For example, at paragraph [0050], Munro teaches “[a] measured parameter is determined based on at least one of the amplitude of the sampled signal and the phase difference between the transmitted signal and the sampled signal.” (emphasis added) Applicants have reviewed Munro and found no reference to “determining, *in response to frequencies* associated with said retro-reflected beams, respective angular positions of said object” as recited in claim 1.

Further, the Office action provides the following logic in support of the rejection:

“(i.e., determining the precise angular position of the target T based on the amplitude signal information about the reflectivity of the target T, para. 230)” (emphasis added) (Office action, page 3, item 7c)

Firstly, Applicants point out that the logic in the Office action makes no mention of frequency as recited in claim 1. Secondly, paragraph [0230] of Munro makes no mention of frequency as recited in claim 1.

As pointed out above, Applicants assert that Munro does not teach “determining, *in response to frequencies* associated with said retro-reflected beams, respective angular positions of said object” as recited in claim 1 and as suggested in the Office action. Because Munro does not teach “determining, *in response to frequencies* associated with said retro-reflected beams, respective angular positions of said object,” Applicants assert that a *prima facie* case of obviousness has not been established.

Clark does not teach “dispersing said one or more EM beams, respectively, into a scanning space *by frequency*”

The Office action states that “Munro fails to specifically disclose dispersing the one or more EM beams into a scanning space by frequency via one or more dispersion devices.” Clark is cited as teaching the missing limitation. Applicants assert that Clark does not teach “dispersing said one or more EM beams, respectively, into a scanning space by frequency” as recited in claim 1.

Clark teaches a distance measuring device that “uses speed of light as the basis for its distance measurement.” (emphasis added) (col. 1, lines 23 – 25) While Clark teaches a distance measuring device that uses speed of light as the basis for a distance measurement, Applicants have reviewed Clark and have found no reference to “dispersing said one or more EM beams, respectively, into a scanning space *by frequency*” as recited in claim 1.

Clark does teach the use of prisms (4) and (5), see Fig. 2. However, Applicants assert that Clark does not teach the prisms as “dispersing said one or more EM beams, respectively, into a scanning space *by frequency*” as recited in claim 1. Rather, Clark teaches that the prisms are used to manipulate the direction of the measurement beam (3). At col. 3, lines 64 – 67, Clark teaches “prism means for altering the direction of the optical measurement signal” (emphasis added) and “means for moving the prism means so that the measurement signal is transmitted and reflected from different objects in different directions spanning objects in a field of view.” (emphasis added) At col. 5, line 37 – col. 6, line 49, Clark teaches that the function of the prisms is to bend or reflect the

measurement beam (3). For example, Clark describes the prisms as “right angle prisms.” (col. 5, lines 42 – 43) Although Clark teaches prisms that are used to bend and reflect light in order to alter the direction of light, nowhere does Clark teach that light is dispersed “*by frequency*” as recited in claim 1.

For the reasons stated above, Applicants assert that Clark does not teach “dispersing said one or more EM beams, respectively, into a scanning space *by frequency*” as recited in claim 1. Because Clark does not teach “dispersing said one or more EM beams, respectively, into a scanning space by frequency,” Applicants assert that a *prima facie* case of obviousness has not been established.

Independent Claim 7

Independent claim 7 includes a similar limitation to claim 1. In particular, claim 7 includes a limitation that recites “dispersion devices that...disperse...by frequency.” In view of the similarities between claim 7 and claim 1, Applicants assert that the remarks provided above in regard to Clark apply also to claim 7. Accordingly, Applicants respectfully assert that independent claim 7 is not rendered obvious from the prior art references.

Claim 8 is dependent on claim 7. Claim 8 include a similar limitation to claim 1. Namely, claim 8 recites a processor that determines angular position “in response to frequencies...” In view of the similarities between claim 8 and claim 1, Applicants assert that the remarks provided above in regard to Munro apply also to claim 8. Accordingly, Applicants respectfully assert that dependent claim 8 is not rendered obvious from the prior art references.

Dependent Claims 2 – 6 and 8 – 18

Claims 2 – 6 are dependent on claim 1 and claims 8 – 18 are dependent on claim 7. Applicants respectfully assert that claims 2 – 6 and 8 – 18 are allowable at least based on allowable base claims.

Additionally, Applicants assert that Munro does not teach or suggest the limitations of claim 5. Claim 5 recites “wherein said one or more EM beams are narrowband beams that are tuned or swept across a range of frequencies.” Claim 5 is

rejected in view of paragraphs [0060] and [0199] of Munro. Applicants have reviewed Munro, including paragraphs [0060] and [0199] and have found no reference to a narrowband beam that is “tuned or swept across a range of frequencies” as recited in claim 5.

CONCLUSION

Applicants respectfully request reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-3718** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-3718** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

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